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ABSTRACT

Two methods of conducting a needs assessment for inservice teacher education programs were tested to determine: (1) the level of consistency of information between the two methods; and (2) the comparative validity of the two types of needs assessments. Eighty-eight teachers were divided into four groups. An informal assessment technique, consisting of an interview questionnaire developed and pilot-tested by project staff, was used to assess the inservice needs of 21 teachers in one group. A formal computerized questionnaire was validated and used with another group of 43 teachers. The inservice needs of two other groups, with 12 teachers in each, were assessed by both methods; one group had the interview first and questionnaire second, while the other group responded to the questionnaire first and the interview second. The participants were teachers of kindergarten through high school, some of whom had had no previous inservice experience. No first year teachers were included. Analysis of the formal data was done by computer, and the informal analysis process consisted primarily of informal staff discussions pertaining to the results of individual interviews. The informal assessment provided micro-level information suitable for individual and small group instruction, while the formal assessment provided macro-level information useful for planning group learning experiences. In analyzing the consistency of the information obtained by the two methods, little systematic relation between the two methods resulted. There was a moderate positive relation between needs and teacher participation when either formal or informal needs assessment procedures were used. (FG)

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Looking At

Needs Assessment

For

Staff Development

A Research Study

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Foreword

During the past decade, the demand for effective staff development programs has steadily increased as a response to the concomitant changes and pressures which have been added to the educational system and, therefore, to the workload of teachers. Curriculum revisions and additions, renewed emphasis on basic skills, competency-testing, court rulings, mainstreaming, and many other factors have forced educators to seek out training opportunities and new resources to help them meet these changing demands. Equipping teachers with the necessary skills and knowledge to handle these added responsibilities has, in many cases, become the task of district inservice programs.

The Ferguson-Florissant School District is a large, generally middle-income district in suburban St. Louis. For the past six years, the district's Teacher Center has provided training and development programs for its approximately 1,000 certified staff and other school support personnel.

The philosophical foundation for the Teacher Center has been that the program should be responsive to the expressed needs of the staff. These needs have been determined through school-level self-study culminating in teachers responding to the *Teacher Skill and Interest Questionnaire.*

Once the needs data are summarized, workshops and other activities are planned to meet the expressed needs. In addition, programs are planned and implemented, upon request, for specific

buildings, grade–level groups or targeted teachers for special pro–jects. Staff identified as potential program participants by either source - - needs assessment and/or special offerings - - were sent program announcements and invitations to attend.

The overall program cycle is schematically presented in Figure 1. Within this model, needs assessment is of primary im–portance. It is the central focus for program planning and imple–mentation. Yet, there is little concensus as to the best method for assessment. Generally, the procedures can be classified on a continuum from informal to formal. The decision of a program planner on the type of procedure to be used seems to be predica–ted on apriori bias, with little scientific research for guidance on what type(s) of procedure(s) would provide the best information for systematic program planning.

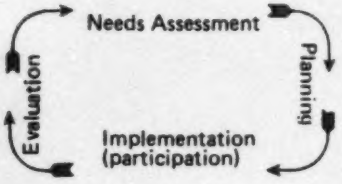

Figure 1. Staff Development Programming Cycle.

The information provided through this study addresses this concern. First, through the determination of the level of consistency of information between formal and informal assess–ment procedures. And, second, through the determination of the comparative validity between formal and informal assessment methods for program planning. The results of the study should be of interest to both the researcher/theorist and the practitioner.

Project direction and maintenance was provided by Dr. Sarah DeJarnette Caldwell, Director of the Teacher Center, and Dr. Donna McKee, Research Associate, both from the Ferguson–Florissant School District. Data management and analysis was performed by Dr. Jon C. Marshall, University of Missouri–St. Louis.

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Chapter 1

Introduction

The need for staff development at the local district level has never been greater. It could be the vehicle through which education will realize greater utilization of quality programs and materials in the 1980's (Berman and McLaughlin, 1975).

The potential effectiveness of staff development can be seen from an examination of the organizational change literature. Goodlad (1975) incorporated inservice into his responsive model for educational change. He urged renewal for schools and advocated retraining of staff for new knowledge and skills. Owens (1970) viewed organizational retraining as a viable means for improving educational programs. Miles (1975) described a "healthy-type" school as one in which the individual teacher can enjoy teaching, influence decision-making, feel secure in the tasks being done, communicate horizontally and vertically, work toward common goals, and feel that the school can successfully adapt to district/community needs. These descriptors are in concert with the concept of teachers' centers as described by Buxton (1979), Devaney and Thorn (1975) and others.

Widespread teacher involvement in the goal setting process seems to be a requisite for the goal acceptance described by Miles in the "healthy school" and thus to meaningful teacher participation in staff development activities (Cruickshank, *et. al.*, 1979). Giacquinta (1973) concluded that the use of involvement as a strategy to gain commitment is significantly related to the degree of change.

John Ryor (1979), President of NEA, has noted that with an expanding knowledge base, inservice education, directed toward teacher needs, is a must. Perhaps the teacher role should be redefined so that continued inservice is an integral part of the job function. As Albert Shanker (1979), President of AFT, pointed out, if teachers were helped to analyze how they actually spend their time, there might be some drastic changes.

However, many of the developing inservice programs are like playing blindman's bluff; programs have been developed without regard to research findings, assessment of program and individual goals, or establishing needs (Houston and Freiberg, 1979). If inservice programs are to meaningfully develop, teachers are going to have to take the responsibility for assessing their own strengths and weaknesses, developing personal–professional plans for improvement, and measuring their progress toward these goals. Research supports this view that staff involvement in planning for adoption is predictive for implementation success (Giacquinta, 1973; Schmuck and Runkel, 1972; I/D/E/A, 1975; Etienne, 1977). Procedures have been developed that enable entire school staffs to set goals and develop broad bases for commitment to these goals (Wood and Caldwell, 1979).

Devaney and Thorn (1975) noted that there has been little standardization in the format and organization of teacher centers in that they seem to operate in almost any manner their developers wish. Nonetheless, despite procedural differences, there seems to be two common philosophical threads running through all teachers' centers. First, they reflect a decisive shift away from the traditional inservice consisting of a "course" or series of lectures and toward more teacher involvement in teaching, planning, and administering training activities (Devaney, 1976). The basis for this shift has been the belief that when there is more direct involvement by teachers in initiating and planning activities, the commitment to inservice is higher, resulting in greater interest, relevance and impact. There has been some evidence that more

knowledge is acquired when teachers participate in identifying and planning their own inservice programs (Rubin, 1976). Second, teachers' centers reflect an emphasis on the teachers as a responsible participant in curriculum and instructional decisions. The common purpose of most teachers' centers is to assist teachers in enlivening, enriching, personalizing, and reorganizing the curriculum for their students. The intended result is to increase teacher motivation to accept more responsibility for curricular and instructional decisions in the school and classroom (Devaney and Thorn, 1975; Buxton, 1979).

In a recent article, Wood and Thompson (1980) presented a list of principles related to adult learning that are relevant to staff development programs. The list included the following four assertions.

- Adults will commit to learning something when the goals and objectives of the inservice are considered realistic and important to . . . them.
- Adults will learn, retain, and use what they perceive is relevant to their personal and professional needs.
- Adults want to be the origins of their own learning; that is, they want to be involved in the selection of objectives, content, activities, and assessment of their inservice education.
- Adults will resist learning situations which they believe are an attack on their competence, thus the resistance to imposed inservice topics and activities.

One of the most important pieces of information that can be gleaned from this list of principles on adult learning is that effective inservice is dependent upon the offering of activities that are *congruent with the needs perceived by the learner.*

The importance of ascertaining needs in developing an effective inservice program also has been noted by many other educators (Trohanis and Jackson, 1980; Rubin, 1976; San Jose, 1979; Keeney, 1979; Schmeider and Lovett, 1980). Yet even with all this theoretical emphasis on needs assessment, there is a lack of concerted research effort to establish its validity or to determine the most effective methodologies.

Chapter 2

Needs Assessments

The inservice needs of teachers can be defined by a broad complex of variables to include, but not necessarily limited to, personal–professional interests, building and district concerns, types of students being taught, and available options. Only the staff can adequately speak to these needs, and often only at a general level. Through any number of processes, individuals can be helped in a self study to maximize their self–awareness and thus the validity of self–determined needs.

The issue of the best instrumentation to use in the needs assessment process has not been clearly delineated. Keeney (1979) defined the primary alternatives as **informal**, *person–to–person,* or **formal**, *systematically gathered data that is statistically analyzed.* Within these categories, there can be many different orientations. A formal needs assessment may focus on special topics which represent current personal interests. Or, it may focus on more generic skill areas which reflect school improvement goals.

The emotional tenor surrounding this issue can be exemplified by Lorraine Keeney's (1979) statement concerning formal and informal methods for assessment.

Formal questionnaires have the potential to reach a mass audience speedily. However, returns can't be guaranteed and a form to fill in seldom taps teachers' deeper concerns or reveals emotional needs . . . teachers' centers' leaders who have tried to do needs assessment by collecting data on a mass-scale, sometimes computerized questionnaires, are not enthusiastic . . . many long-experienced centers have operated successfully without organizing such probes into a more formal needs assessment procedure.

The high pitch that this apriori bias can take was recently illustrated in an anonymous review to an AERA program paper proposal, when the reviewer stated *"When will people realize that this type information (formal assessment) is worthless."*

These sweeping suppositions about needs assessment are characteristic since little research has actually been done to establish the validity and consistency of the various methodologies. To date, except for some of the measurement research, there has been little scientific information available to planners; thus, decisions on needs assessment have been left to common sense (Kerlinger, 1973). The limited anecdotal testimony is insufficient to cast the mold for determination of how, or how not, this critical task is to be accomplished.

Regardless of procedure used, the first step in needs assessment is instrument development. There are two general approaches to the problem. For informal assessment, the need categories emerge post hoc from information obtained from the staff during the study process; while for formal assessment, the categories are usually identified apriori through previously completed research, theoretical constructs, and group concensus. Formal surveys can emerge from the results of informal questionnaires.

The point is that even though the procedures for informal and formal assessments may start in different places with different assumptions, instruments have to be developed for both. For this study, the initial informal questionnaire was developed by project staff during several meetings. This questionnaire was pilot tested on a small number of teachers by the project research associate. Based on the feedback provided, the instrument was revised before actual administration. This final instrument contained sections: (1) Background; (2) Selection/Identification; (3) Needs; and (4) Other. A sampling of the questions is presented in Exhibit 1.

The formal assessment process was developed prior to this study. Nonetheless, to put both procedures in the proper perspective the initial development of the formal questionnaire needs to be reviewed. The Teacher Skill/Interest Questionnaire (TS/IQ) is a National Computer Service scannable form that has been designed for group administration and computer analysis. Included on the four page form are demographic and identification information and thirty (30) macro-classification areas for teacher self assessment. The ratings collected include teachers' self perceptions of their level of skill and inservice interest for each area.

The TS/IQ form used in this study was a fourth generation instrument. As a result of the study, the form has been revised and the fifth generation instrument produced. The conceptualization of the form was initially developed in 1976 through the Teacher Center Steering Committee. Then, in a three-day *"We Agree"* workshop, 40 teachers and 5 administrators, through brainstorming and concensus, developed forty-five (45) skill areas for inclusion on the needs assessment. The resultant form was developed for hand processing of the information.

EXHIBIT 1. Portion of Informal Needs Questionnaire.

How do you select which inservice programs you will attend?	Write specifics here
1. ☐ By Topic ☐ Specific Content ☐ Personal Interest ☐ Building Need ☐ Other	
2. ☐ By Time ☐ Released ☐ After School ☐ Saturday ☐ Summer	

1. As a teacher, what do you feel you really do well?	not so well?
2. What are your major inservice needs?	(Probe for why) interests?
4. How do you learn best? ☐ Hearing ☐ Visual ☐ Doing ☐ Discussion	(Probe for example)

Examination of the selected skill areas by teachers and administrators serving on the Teacher Center Steering Committee, resulted in the selection of the most pertinent topics for retention on a second generation instrument. This form of the TS/IQ was printed on NCR paper for multiple copies, with the survey results coded and key punched for computer analysis. Nonetheless, some data reduction still had to be completed by the Teacher Center staff.

During 1978, the TS/IQ was again revised and produced in its current form as a machine readable survey. In this latest revision, two skills were dropped, one skill added, and two skills combined for a total of 30 generic skill areas. A sampling of the questions is shown in Exhibit 2.

All computer programs were written during 1978–1979 to provide frequency summaries and listings of the individual respondents by need areas identified. Thus, for this study, the analysis of the formal needs assessment was routine. The results were returned within two weeks after the TS/IQ administration for use in program planning.

It needs to be emphasized in this discussion of the needs assessment process that neither of the instrument forms (informal or formal) are particularly easy to develop. While there may be a difference in the initiation point (e.g., drawing information from the field or from other sources), the obtainment of quality information can be expected to evolve through several stages of instrumentation. This is a process of clarifying and validating information so that it can be meaningfully categorized. The key at this point may not be the type of form used, but rather the attention paid to collecting valid information. For this study, the formal assessment instrument had already gone through many

hours of study including three cycles of development. The informal instrumentation had to be developed specifically for this project, thus accounting for a much larger portion of the expended time of the research staff.

EXHIBIT 2. Portion of Formal Needs Questionnaire

GOAL

Students will be able to:

	Degree of District Implementation	Building Need	Personal Need
1. Communicate effectively	(H) (M) (L)	(Y)	(Y)
2. Perform basic mathematical computations	(H) (M) (L)	(Y)	(Y)

	Level of Skill/ Knowledge	Inservice Interest	Greatest Interest
1. Individualized program development	(7) (4) (1)	(5) (3) (1)	( )
2. Team planning	(7) (4) (1)	(5) (3) (1)	( )
3. Multidisciplinary approaches	(7) (4) (1)	(5) (3) (1)	( )

Chapter 3

Research Design

An experimental reversed treatment, posttest only design was selected because it provides controls for many internal, external and construct validity concerns allowing for a reliable and valid examination of the two primary research questions.

- Do informal and formal methods of needs assessment provide the same information for program planning?
- Are informal and formal methods of needs assessment equally valid as information gathering devices for staff development planning?

The needs assessment data were obtained during September and October, 1980. These data formed the basis for the treatment which consisted of the inservice programs offered through the Teacher Center.

As an initial step, the teachers' top choices were summarized. The most frequently selected areas were:

Knowledge of Content Areas (40%)	Individual Program Planning (38%)
Planning Basic Skills (31%)	Planning for Gifted/Talented (27%)
Learning Centers/Instructional Games (17%)	Discipline Techniques (16%)
Planning for Learning Problems (14%)	Using Multimedia (14%)
Student Self-Concept (13%)	Questionning Techniques/Methods (12%)
Multidisciplinary Approaches (11%)	Planning for Diverse Cultural Backgrounds (10%)
Role Playing/Simulation (10%)	Rapport/Empathy (10%)

These data were further refined by breaking out these needs by elementary and secondary levels. For the informal assessment group, this was done using the individual responses from the questionnaires. For the formal assessment group, the needs were refined and clarified through discussions with teacher leaders, curriculum specialists, principals and assistant superintendents.

The workshops were planned using these data. From the list of teacher identified needs, individual teachers were paired with planned inservice programs. In addition, during the year, workshops were requested for specific buildings, grade-level groups, and targeted teachers for special projects. Often these workshops were independent from the expressed needs of the staff. Teachers identified as potential participants in a program by either source - - i.e., needs assessment or special offerings - - were sent program announcements and invitations.

The posttest data used in the analyses consisted of the program invitations sent to the teachers and the programs attended by the teachers. In addition, to compare the data obtained from the two types of instruments, both the informal and formal assessments were administered to a subsample of the teachers. Thus, four groups were identified for analysis: (1) Formal Assessment Only; (2) Informal Assessment Only; (3) Formal Assessment, then Informal Assessment; and (4) Informal Assessment, then Formal Assessment.

For each participant in the study, the following three information profiles were established.

> Need Profile - - The number of needs identified by the teacher in each of 43 categories (e.g., Team Planning, Planning for Basic Skills, Creative Writing).

Invitation Profile - - The number of invitations sent to the teacher in each of the 43 categories.

Participation Profile - - The number of programs the teacher attended in each of the 43 categories.

The primary data analysis consisted of determining the Pearson product–moment correlations for each pair of profiles - - i.e., Need Profile vs. Invitation Profile, Need Profile vs. Participation Profile, and Invitation Profile vs. Participation Profile - - for each teacher participating in the study. These correlations were normalized using Fisher z' transformations and then analyzed for group differences using the analysis of variance. This design is schematically represented in Exhibit 3 for the needs versus participation analysis.

Research Design	*Statistical Design*
$X_I \; O_1$	$X_I \; R_{NP}$
$X_F \; O_1$	$X_F \; R_{NP}$
$X_{IF} \; O_1$	$X_{IF} \; R_{NP}$
$X_{FI} \; O_1$	$X_{FI} \; R_{NP}$

EXHIBIT 3.

Research and Statistical Design

Where:

X = Treatment

I = Informal Needs Assessment

F = Formal Needs Assessment

O = Observations

R = Correlation (r)

N = Individual Need Profile

P = Individual Participation

Chapter 4

Sampling Procedures

There were four experimental comparison groups identified in this study. One group consisted of all teachers whose inservice needs were identified using an informal interview. The reverse-treatment group consisted of all teachers whose inservice needs were identified using a formal, computer scanned questionnaire. The other two groups consisted of teachers receiving both types of assessment; one group had the informal then formal assessments and the other group had the formal followed by the informal assessments.

All participating teachers were randomly selected. In mid-September, 1980, a complete list of full-time certified teachers in grades K-12 was obtained from the district central office. Using a table of random numbers, teachers' names were randomly selected and alternately placed in the four groups. Anticipating a small loss in subjects, 25 teachers were placed in the interview only group, 15 teachers were placed in each combination group, and 50 teachers placed in the formal questionnaire group. Sixteen teachers declined to participate in the study and one teacher left the district after the needs assessment, resulting in the following sample groups:

Group		
1. Informal Only	25	21
2. Informal – Formal	15	12
3. Formal -- Informal	15	12
4. Formal Only	50	43
TOTAL	105	88
Percent Efficiency	84	

Overall, 105 teachers were selected for participation in the study. Of these, 88 actually completed the study for a sampling efficiency of 84%.

The samples included Kindergarten through Senior High School teachers. In addition, they included teachers with no previous participation in inservice to those with high past participation records. No first year teachers were included in the study. The teacher backgrounds can be summarized as follows:

	Teaching Level			1979–1980 Participation*		
Group	Elem.	Middle	High School	Low	Middle	High
1. Informal Only	14	4	3	9	7	5
2. Informal – Formal	7	3	2	6	0	6
3. Formal – Informal	6	2	4	7	4	1
4. Formal Only	16	12	15	26	10	7

* Low = 10 or less hours
Middle = 11 to 13 hours
High = Over 30 hours

Chapter 5

Data Collection

Of primary importance to this study was that of maintaining the integrity of the data in terms of sincerity of responses from the teachers and non-contamination of responses by experimenter expectations. These issues can be resolved by using an independent interviewer for the informal data collection and the normal district established procedures for the formal data collection.

After the sample selection was completed, the teachers selected for informal interviewing were individually contacted and appointments made. All interviews were conducted on-site in the participants' schools.

During this same time period, the chairpersons of the schools' needs committees were contacted for administration of the formal questionnaire. These chairpersons were provided with lists of the teachers to whom the questionnaire was to be administered and a time-frame for the data collection.

Of particular concern at this time were the 30 teachers selected for both informal and formal assessment. The coordination of this dual assessment was done by scheduling early those teachers to be interviewed and then administered the questionnaire. For the other group, the interviews were conducted immediately after the formal questionnaires had been administered.

All the formal questionnaires were administered by building staff using normal district procedures; the interviews were conducted by the project research associate. The general format for the interviews was first for the interviewer to explain the purpose and procedure for the interview and then to actually conduct the interview. All participants and the interviewer signed statements of confidentiality.

Descriptive and identification information were obtained from all participants including name, school, education level, years teaching, and subject/grade taught. In the informal assessment, information was also obtained about such topics as inservice participation, perceived needs, and personal learning styles. Responses to questions were recorded on the interview forms. After each interview, the interviewer added appropriate commentary describing attitudes, non-verbal communication, and/or perceptions of the interview.

Obtaining the needs data took an average of one hour per participant for the interview and 45 minutes per participant for the formal questionnaire. This time included telephone contacts, travel, and actual personal contact.

The other data collected were the numbers of invitations sent to each teacher in the study and the inservice programs attended. The data were maintained by individual, program title, and program topic.

Chapter 6

Data Analysis and Results

It was noted in Chapters 3 and 5 that this study could be divided into three distinct phases. These phases can be denoted as (1) Needs Assessment Processes (2) Consistency of Information and (3) Needs versus Participation. Since each of these phases represents a distinct aspect of the research, they will be discussed separately.

Needs Assessment Processes

Informal and formal needs assessments were administered to 88 teachers during the fall of 1980. Informal assessment was completed for 45 teachers and formal assessment was done for 67 teachers with 24 teachers receiving both treatments.

Analysis of the formal data was done by computer. The data returned to the Teacher Center included the number of teachers marking each of the 30 skills and 26 sub–skills. In addition, each individual was classified by their inservice skill of interest. This latter printout enabled the inservice staff to identify individuals that would be sent invitations to planned activities.

Analysis of the informally gathered data was quite cumbersome, but provided some useful insights into teachers' perceived needs. This analysis took two full days of interaction time among the three project staff and several subsequent short meetings, for a total of about 10 person days. The analysis process

consisted primarily of informal discussions pertaining to individual interviews. Particularly valuable to this process were the personal observations of the interviewer. Often, meaning to the needs and interests resulted from the knowledge provided by the interviewer of the particular setting in which the teacher was operating. This richness of data was the distinct advantage of the interview process.

Nonetheless, for the individual depth provided by the personal one–to–one interview process, it was found to be difficult to cluster the needs into meaningful categories for planning. The critical element here is that staff development programs are implemented for groupings of teachers having like needs. With indepth information on each teacher, no two were alike. After spending several hours on the analysis, it was discovered by the researchers that they had to pull back from the detailed teacher profiles. The information was found to be useful in developing clusters for planning at the macro level; however, at the micro–mediation level, the uniqueness of each teacher's concerns clouded the process, making it nearly impossible to glean the generalizations necessary for useful planning. Thus, as a general principle it seems that **needs identified at the macro–level can be meaningfully utilized in the planning process, regardless of the micro–mediations that constitute the macro need.** In fact, the micro–mediations may confound planning by over–emphasizing the uniqueness of individuals to the point that the common thrusts are lost.

Once this concept was realized, the research team was able to reevaluate the individual profiles for clusters of identified needs. As the first step, the individual needs indicated were summarized for each teacher. This resulted in an average of about three needs per teacher for a total of about 150 identified needs. These needs were grouped by topic areas for further classification. Some of these areas closely resembled those on the formal needs questionnaire and some were completely different. Because of the overlap with the categories on the formal questionnaire, it was determined by the team that maximum benefit could be obtained by using the 30 "formal" categories plus the new topic areas. This resulted in the utilization of the following 43 needs.

Individual Program Development
Multidisciplinary Approaches
Planning Basic Skills
Planning for Gifted/Talented
Knowledge of Content Areas
Questioning Techniques/Methods
Utilizing Multimedia
Independent Learning/Study Methods
Conducting Parent/Student Conferences
Program Evaluation
Reinforcement Techniques
Rapport/Empathy
Student Interaction
Grouping for Instruction
Student Involvement
Commercial English Materials
District Resources
Teacher Morale
Nature Center
Creative Writing
Reading in Content
CPR/Health

Team Planning
Curriculum Development Process
Planning for Learning Problems
Planning for Diverse Cultural Backgrounds
Learning Centers/Instructional Games
Role Playing/Simulation
Tutoring
Test Construction
Data Interpretation
Student Self-Concept
Informal Information Gathering
Communication Techniques
Freedom from Race/Sex Stereotyping
Discipline Techniques
Learning Environment
Motivation
Music, Junior High Boys
Stress
Scott-Foresman Social Studies Materials
Drama
Death and Dying

It can be seen from this listing that the 30 apriori "formal" categories were generic skill areas, while the 13 post hoc "informal" categories were more topical.

Total administration time for the informal assessment was about one hour; for the formal assessment it was about 45 minutes. While these times may seem similar, it needs to be remembered that for the formal assessment *three-quarters of an hour for one is three-quarters of an hour for all.* From this vantage point the formal assessment process is the more time-efficient.

In terms of the levels of data obtained, the informal assessment provided *micro–level information* on the smaller number of teachers while the formal assessment provided *macro–level information* on the larger number of teachers. For planning workshops and other group experiences the macro–level assessment was sufficient. It would seem, though, that for staff development programs designed to provide more individualized experiences, the micro–level information provided from the interview might be necessary.

Consistency of Information

Up to this point, we have discussed the processes for obtaining needs assessment data, reflecting on some of their strengths and some of their weaknesses. But, do informal and formal assessments provide the same information? It was noted in the previous section that the two methods differed in the levels of information provided and that several topical categories emerged from the informal data that were not on the formal questionnaire. So, on the surface, some differences were really visible.

To more fully examine the question of consistency, the profile correlations between the informal and formal obtained data were determined for the 24 teachers who participated in both assessments. The mean profile correlations and corresponding z-scores are presented in Table 1 and the analysis of variance summary data are presented in Table 2.

It can be seen from these data that there was a low positive relation between the information obtained using the informal interview and the formal questionnaire. The difference between the 0.32 and 0.21 z-scores was not significant (see Table 2.), indicating that it made no difference which assessment was administered first, and that the overall correlation of 0.26 could be considered a reasonable expectation of the actual relation between the information obtained from the two assessment methods. While the correlation was significant from zero, it reflects only a 7 percent overlap in information obtained. Thus, when planning using either of the two procedures, there would be a 93 percent difference in individual information obtained depending on which process was selected. This difference could have major ramifications in program planning when using one of the methods of needs assessment as opposed to the other method.

TABLE 1. Relations Between Formal and Informal Needs Profiles

	MEANS	
Group	z-Score	Correlation
F – I	0.32	0.31
I – F	0.21	0.21
TOTAL	0.27	0.26

F = Formal I = Informal

TABLE 2. Consistency ANOVA Summary Table

Source of Variance	SS	df	F
Zero	1.75	1	16.67*
Between	0.08	1	0.77
Within	2.31	22	
TOTAL	2.39	23	*p < .01

It must be emphasized that this difference in need information obtained is not to be misconstrued to reflect a quality difference between the two assessment procedures. Only, that there is little to no systematic relation between the results of informal and formal needs assessment.

Examination of the mean number of needs identified by each group provides an additional look at this phenomenon. From Table 3 it can be noted that the number of needs reflected by either approach alone was virtually identical at 3.7. When both methods were used, the number jumped by almost 150%, suggesting that not only did the two methods provide different information, but that administering one might actually influence a second assessment providing a 30 to 50 percent additional increase in identified needs. This total increase is statistically significant as shown in Table 4. This seeming independence might indicate that one method provides valid data, while the other is spurious. Or, it could suggest that both methods are valid, but either method alone only partially assesses the teachers' needs. The analysis presented in the next section sheds some light on this dilemma.

TABLE 3. Mean Number of Needs Identified

GROUP	MEAN
F	3.72
I	3.71
FI	8.67
IF	9.33
F = Formal	I = Informal

TABLE 4. Mean Needs ANOVA Summary Table

Source of Variance	SS	df	F
Between	489.50	3	30.71*
Within	446.27	84	
TOTAL	935.77	87	

*$p < .01$

Needs versus Participation

For this final analysis, the relations between identified needs and participation in inservice programs were determined. These relations reflect the validity of each of the assessment procedures for providing information for program planning. Before examining these data, it must be remembered that while the needs represent the beginning of the inservice process and participation represents the final product, there is a middle reflected by the issuance of invitations to participate in planned programs. The final relation between needs and participation will be influenced by the relation between needs and invitations, and the relation between invitations and participation.

It must be remembered that program development draws from several information sources. Obviously, a major source is the needs assessment. Also included, though, would be individual requests, special building requests and special project requests. To determine the actual level of input in this process from the needs assessment, the correlations between needs profiles and invitation profiles were determined for the 88 teachers in the study.

The mean relations for the experimental groups between identified needs and inservice program invitations are presented in Table 5. The relations between needs and invitations were moderately high, reflecting an overlap of about 0.67^2 or 45 percent. Thus, about half of the inservice invitations were generated from the individual teacher needs data and about half were generated from other sources.

TABLE 5. Relations Between Needs and Invitations

GROUP	Correlation
F	0.62
FI/ IF	0.60
I	0.77
F = Formal	I = Informal

TABLE 6. Relations Between Invitations and Participation

GROUP	Correlation
F	0.54
FI/IF	0.64
I	0.89
F = Formal	I = Informal

The data presented in Table 6 represents the other side of this concern showing the mean relations between invitation profiles and participation profiles. Again, these relations suggest about 0.73^2 or 53 percent overlap. Thus, there is about 50 percent correspondence between needs and the issuance of inservice invitations sent and the selection to participate in programs.

As might be anticipated from the foregoing discussion, the relations between the needs profiles and inservice participation profiles were generally moderate to low. Thus, in a comprehensive inservice program, in which program planning information is drawn from several sources, individual needs assessment alone could be expected to account for 15 to 20 percent of the participation (see Table 7).

In interpreting this relation, it is to be recalled that the less than 1.00 correlations between needs and invitations and between invitations and participation would depress the need to participation correlation. An estimate of the relation between needs and participation, **assuming that only the needs assessment data are used for planning,** can be obtained using the needs–invitations and invitations–participation correlations. These adjusted values are shown in Table 7.

TABLE 7. Mean Relations Between Needs Profiles and Program Participation.

GROUP	Relation	% Overlap	Adjusted Relation	Overlap
Formal	0.29	0.08	0.50	0.25
Formal–Informal	0.38	0.14	0.61	0.37
Informal–Formal	0.31	0.10	0.50	0.25
Informal	0.65	0.42	0.78	0.61
AVERAGE	0.42	0.18	0.62	0.38
$F_R = 2.04$, df - 3/84, $p > 0.05$				

These data suggest that individual needs assessment can be a significant force for program planning, accounting for over one–third of program participations over a year's time. The adjusted average within group correlations ranged from a low of 0.50 to a high of 0.79, with a mean of 0.62. Neither this 0.28 difference, nor any other difference, was significant. The mean correlation of 0.62 indicates an adjusted overlap between needs and inservice participation of more than 34 percent over an academic year time–period. Thus the statistical hypothesis of no difference in the mean relations between needs assessment and inservice participation for teachers assessed using formal, informal and combined methods was retained. Therefore, the overall adjusted mean correlation of 0.62 would be the best estimate of the relation between assessed needs.

It can be concluded that there is a **moderate positive relation between assessed needs and teacher participation in inservice when either informal or formal needs assessment procedures are used.**

Of final note is the fact that no significant differences were found among the mean levels of participation for the four treatment groups ($F = 1.74$, $df = 3/83$), leaving an overall mean participation level of 2.38 sessions. These data add to the evidence that the two methods of needs assessment, informal versus formal, are equally valid for planning and implementing inservice programs.

Chapter 7

Conclusions and Recommendations

The primary conclusion to be drawn from this study is that informal and formal needs assessment procedures are equally valid for obtaining information to plan and implement staff development programs. It seems appropriate that the managers of staff development programs put aside their apriori bias concerning the validity of one method or the other for needs assessment, realizing that either method can provide valid data. The decision as to which method should be used in a given program would be better made by considering the primary purpose for the assessment, time and cost efficiency, secondary uses for the information, and other similar concerns.

It was evident that the informal process provided specific, individualized information; while the formal questionnaire provided more generalized information. The more individualized information was more difficult to work with since it had to be synthesized and categorized on a post hoc basis. But it did provide insights into some needs that were masked in the apriori categorization of the formalized assessment. As related here, each method had its strengths and weaknesses.

Through this study, several general principles were clarified. These principles can provide guidance to those persons in the field charged with implementing staff development programs. In addition, they can provide the theorists with direction for future research.

Proposition 1: There is no relation between the type of assessment and the number of inservice programs attended.

Proposition 2: There is a moderate positive relation between individually assessed needs and inservice participation.

Proposition 3: Formal and informal needs assessment procedures are equally valid for obtaining information for planning and implementing staff development programs.

Proposition 4: Formal and informal needs assessments provide near independent sets of information.

Proposition 5: Informal needs assessment provides indepth information yielding micro-level needs identification.

Proposition 6: Formal needs assessment provides general information yielding macro-level needs identification.

Proposition 7: Even though micro–level needs identification is useful for clarifying macro–level needs, the specificity of the micro–level needs can cloud the more common issues.

Proposition 8: Macro–level needs identification is sufficient for the initial planning of inservice programs.

From these propositions it can be recommended that planning for staff development programs should utilize assessed needs of the staff to be serviced. The assessment process should be based on the use to be made of the data, time, and money

constraints, size and/or type of group to be assessed, and the type of programs to be offered. The selection of a procedure should not be made on some preconceived notion of informal or formal procedures being the best for all programs. Finally, should a formal process be initiated, informal procedures occasionally should be implemented to cross–validate the formal instrumentation.

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